

ABSTRACT

An optical element comprising a periodic structure in which refractive index is distributed periodically and a deforming portion which mechanically 5 deforms by external action, wherein the deforming portion is integrally arranged with the periodic structure along the periodic direction of the periodic structure, and is so constructed as to change the periodicity of the periodic structure by 10 deforming in the periodic direction of the periodic structure. A periodicity of the periodic structure (photonic band structure) in which the refractive index changes periodically can be controlled with a simple configuration.